

WHAT IS CLAIMED IS:

1. A component built-in wiring board, comprising:

5 a conductive layer extending in a thickness direction of the board and buried in the board without being exposed from an upper and a lower surface of the board;

an electrical/electronic component having a terminal and buried in the board with the terminal facing the buried conductive layer;

10 a connecting member provided in a gap between the terminal of the buried electrical/electronic component and the conductive layer to electrically/mechanically connect the terminal and the conductive layer; and

two upper and lower insulating layers which cover an outer  
15 surface of the buried electrical/electronic component excluding a portion connected to the connecting member and which are in close contact with a top and a bottom in the board thickness direction of the electrical/electronic component.

2. The component built-in wiring board as set forth in claim  
20 1, wherein the electrical/electronic component is one of a semiconductor chip, a semiconductor package, a chip capacitor, a chip resistor, and a chip inductor.

3. The component built-in wiring board as set forth in claim  
1, further comprising wiring layers electrically connectable in a  
25 lateral direction to the conductive layer, the number of the wiring layers being four.

4. The component built-in wiring board as set forth in claim  
3, wherein the wiring layers are electrically connected to one another

via conductive bumps.

5. The component built-in wiring board as set forth in claim 4, wherein the conductive bumps sandwich the wiring layers to be laid one over another.

5 6. The component built-in wiring board as set forth in claim 1, further comprising:

two inner wiring layers provided to be in contact with inner surfaces of the two upper and lower insulating layers respectively; and

10 two outer wiring layers provided to be in contact with outer surfaces of the two upper and lower insulating layers respectively,

wherein the inner wiring layers and the outer wiring layers sandwiching the two upper and lower insulating layers respectively are electrically connected to each other via conductive bumps.

15 7. The component built-in wiring board as set forth in claim 1, wherein the connecting member is one of solder and conductive resin.

8. The component built-in wiring board as set forth in claim 1, wherein the connecting member is not in contact with a  
20 lateral-direction end portion of the conductive layer.

9. The component built-in wiring board as set forth in claim 1, wherein the conductive layer has a horizontal cross section in a shape constituted of a plurality of arcs.

10. A manufacturing method of a component built-in wiring  
25 board, comprising:

producing a core wiring board having conductive layers on at least an upper and a lower surface thereof respectively;

forming a through hole in the produced core wiring board;

forming a conductive layer so as to include an inner surface of the formed through hole;

patterning the conductive layers provided on the upper and lower surfaces;

5        machining the produced core wiring board so as to split the conductive layer formed in the through hole according to the number of terminals of an electrical/electronic component that is to be built and so as to make a space for housing the electrical/electronic component that is to be built in;

10       placing the electrical/electronic component in the space; connecting each of the terminals of the placed electrical/electronic component to the split conductive layer via a conductive member; and

forming and stacking insulating layers respectively on the  
15       upper and lower surfaces of the core wiring board to which the electrical/electronic component is connected via the conductive member, so as to fill a vicinity of the electrical/electronic component.

11.    The manufacturing method of the component built-in  
20       wiring board as set forth in claim 10, wherein in the producing the core wiring board having the conductive layers on at least the upper and lower surfaces thereof respectively, the core wiring board having four wiring layers is produced, the four wiring layers being electrically connected to one another via conductive bumps.

25       12.    The manufacturing method of the component built-in wiring board as set forth in claim 10, wherein the forming the conductive layer so as to include the inner surface of the formed through hole includes: forming a conductive layer as a base by

electroless plating; and forming a conductive layer as an upper layer by electrolytic plating, with the formed base being used as a seed.

13. The manufacturing method of the component built-in wiring board as set forth in claim 10, wherein one of drilling and die punching is used in the machining the produced core wiring board so as to split the conductive layer formed in the through hole according to the number of the terminals of the electrical/electronic component that is to be built in and so as to make the space for housing the electrical/electronic component that is to be built in.

14. The manufacturing method of the component built-in wiring board as set forth in claim 10, wherein, in the placing the electrical/electronic component in the space, a supporting member is set at a bottom position of the core wiring board seen from the space and the electrical/electronic component is positioned on the supporting member.

15. The manufacturing method of the component built-in wiring board as set forth in claim 10, wherein in the connecting each of the terminals of the placed electrical/electronic component to the split conductive layer via the conductive member, one of solder and conductive resin is used as the conductive member.

16. A manufacturing method of a component built-in wiring board, comprising:

producing a core wiring board having conductive layers on at least an upper and a lower surface thereof respectively;

forming a through hole in the produced core wiring board so as to make a space for housing an electrical/electronic component that is to be built in;

forming a conductive layer so as to include an inner surface

of the formed through hole;

patterning the conductive layers provided on the upper and lower surfaces;

splitting the conductive layer formed in the through hole according to the number of terminals of the electrical/electronic component that is to be built in;

placing the electrical/electronic component in the space; connecting each of the terminals of the placed electrical/electronic component to the split conductive layer via a conductive member; and

forming and stacking insulating layers respectively on the upper and lower surfaces of the core wiring board to which the electrical/electronic component is connected via the conductive member, so as to fill a vicinity of the electrical/electronic component.

17. The manufacturing method of the component built-in wiring board as set forth in claim 16, wherein the forming the conductive layer so as to include the inner surface of the formed through hole includes: forming a conductive layer as a base by electroless plating; and forming a conductive layer as an upper layer by electrolytic plating, with the formed base being used as a seed.

18. The manufacturing method of the component built-in wiring board as set forth in claim 16, wherein one of drilling and die punching is used in the forming the through hole in the produced core wiring board so as to make the space for housing the electrical/electronic component that is to be built in.

19. The manufacturing method of the component built-in wiring board as set forth in claim 16, wherein, in the placing the

electrical/electronic component in the space, a supporting member is set at a bottom position of the core wiring board seen from the space and the electrical/electronic component is positioned on the supporting member.

5           20. The manufacturing method of the component built-in wiring board as set forth in claim 16, wherein, in the connecting each of the terminals of the placed electrical/electronic component to the split conductive layer via the conductive member, one of solder and conductive resin is used as the conductive member.

10           21. The manufacturing method of the component built-in wiring board as set forth in claim 16, wherein one of drilling, die punching, and laser machining is used in the splitting the conductive layer formed in the through hole according to the number of the terminals of the electrical/electronic component that is to be built  
15 in.

          22. The manufacturing method of the component built-in wiring board as set forth in claim 16, wherein, in the producing the core wiring board having the conductive layers at least on the upper and lower surfaces thereof respectively, the core wiring board  
20 having four wiring layers is produced, the four wiring layers being electrically connected to one another via conductive bumps.

          23. The manufacturing method of the component built-in wiring board as set forth in claim 16, wherein, in the forming the through hole in the produced core wiring board so as to make the  
25 space for housing the electrical/electronic component that is to be built in, the through hole in a substantially circular shape is formed.

          24. The manufacturing method of the component built-in

wiring board as set forth in claim 16, wherein, in the forming the through hole in the produced core wiring board so as to make the space for housing the electrical/electronic component that is to be built in, the formed through hole has a horizontal cross section  
5 whose outline is constituted of a plurality of arcs.